

CITY OF KINGMAN, ARIZONA  
POSITION DESCRIPTION

**CLASS TITLE: Engineering Technician II – CAD Manager**

<b>BAND</b>	<b>SALARY GRADE</b>	
<b>C</b>	<b>212</b>	
<b>DEPARTMENT</b>	<b>ACCOUNTABLE TO</b>	<b>FLSA STATUS</b>
Engineering	City Engineer/Assistant City Engineer	Non-Exempt
<b>REVISION DATE: July 2009</b>		

**GENERAL PURPOSE**

Performs computer aided drafting (CAD), management of the City Geographic Information System (GIS) and AutoCAD databases, and limited design work in the preparation of civil engineering plans, maps and related materials; works with the engineering computer data base system, inputting and retrieving information, developing reports and related assignments.

The Engineering Technician II is the full journey level class within the series. Employees within this class are distinguished from the Engineering Technician I by the performance of the full range of duties as assigned including more complex work assignments. Employees at this level receive only occasional instruction or assistance as new or unusual situations arise, and are fully aware of the operating procedures and policies of the work unit.

Appointment to the Engineering Technician II level requires that the employee: is satisfactorily performing the full range of duties assigned to the II level class, is off introductory status, and meets the minimum requirements for the class.

**SUPERVISION RECEIVED**

Works under the general guidance and direction of the City Engineer or Assistant City Engineer.

**SUPERVISION EXERCISED**

May exercise functional and technical supervision over lower level and temporary staff.

**ESSENTIAL DUTIES AND RESPONSIBILITIES**

Provide technical engineering and property information to the public, other City departments, and outside agencies including architects, engineers, developers, designers, and utility companies.

Research a variety of engineering and real estate records in answering inquiries including legal descriptions, civil plans, blueprints, as-builts, and various other office files.

Maintain and update engineering databases of engineering drawings, land and utility record maps, and other associated databases utilizing computer aided design tools database applications, scanning applications, and other computer software and hardware.

Perform routine design/drafting operations for engineering projects and may assist in preparation of cost estimates for projects.

Assist in large-scale corrective processes of the City GIS database and related digital mapping and data documents, including research and verification from source documents

Operate GIS/CAD workstation to research City GIS database on subdivisions, developments, and capital improvement projects; implement computer plotting as required.

Provide specialized and custom GIS and digital maps, GIS data extractions, digital imagery, and specialized plotting capabilities for internal and external customers using GIS, CAD, digital image editing and other software.

Assist in assigning the City's Addressing Policy; compile monthly reports of new address or changes for review and approval

Collects and maintains a data base of municipal information for data, diagrams, charts, and graphics presentation purposes from a variety of sources.

Prepares and updates maps and drawings as needed for presentation purposes, or to reflect changes to streets, zoning, structures, improvements, infrastructure, etc.

Drafts drawings for or from legal descriptions, dedications, annexations, local improvement districts, easements or condemnations. Prepares right of way, easement, and property drawings. Drafts topography from field survey notes.

Researches records, maps and other data to obtain typical data such as location of sewer mains, water/sewer taps, water mains, hydrants, valves, storm drainage, street systems, etc. and zoning district designations or special property assessments.

Drafts detailed dimensional drawings such as those needed for comprehensive or system operating plans and projects.

Inking in lines and letters on drawings as required; Drawing charts for representation of statistical data; drawing finished designs from sketches; using computer assisted drafting (CAD) equipment and software.

Ensure spatial accuracy and data quality of geospatial and attribute data encoding to the City GIS database; performs high accuracy geospatial mapping by coordinate geometry (COGO) mapping techniques, links attributes to geospatial objects, and edits attribute database.

Computes quantity take-offs, calculates areas and volumes for projects.

Performs a variety of office related functions, including preparing maps, presentation materials, brochures, reducing printing materials, etc.

## **PERIPHERAL DUTIES**

Answering phones and responding to inquiries from contractors, developers, property owners, staff, and the general public in verifying water and sewer locations.

Serves as a member of various employee committees.

Frequent contacts with the general public to verify water and sewer locations.

Regular contacts with utility companies to collect data on underground utility locations.

Some contact with County GIS and Recorder offices to obtain updated maps of record and ownership information.

## **DESIRED MINIMUM QUALIFICATIONS**

### **Education and Experience:**

- A. Graduation from a high school or GED, supplemented by two years of related technical or college training in Algebra, Trigonometry, Physics, Land Surveying, Civil Engineering, Drafting, Computer-Aided-Design (CAD), Geographic Information Systems (GIS), Cartography, or a closely related field; and
- B. Minimum of five years related experience in civil engineering drafting including three years of experience with AutoCAD or GIS production mapping practices; or
- C. Any equivalent combination of education and experience.

### **Necessary Knowledge, Skills and Abilities:**

- A. Considerable civil engineering drafting experience; familiarity with commonly accepted civil engineering design guidelines and criteria;
- B. Knowledge of urban design principles, practices and methods; some knowledge of applicable policies, laws, and regulations affecting Division activities; considerable knowledge of drafting and design techniques; knowledge of the principles of Algebra, Geometry, and Trigonometry and application in solving engineering problems;
- C. General knowledge of construction materials, and methods used in public works projects; knowledge of modern office practices, procedures and equipment;
- D. Skill in operating computer-aided civil drafting equipment and programs, and general knowledge of computer operating systems and data base programs;

- E. Ability to effectively communicate orally and in writing; ability to establish and maintain effective working relationships; ability to prepare accurate quantity and cost estimates; ability to work effectively with multiple project managers on a variety of capital improvement projects; ability to meet deadlines, and ability to accept changes in project schedules; ability to establish and maintain effective working relationships with all levels of City employees and the general public.

## **SPECIAL REQUIREMENTS**

- A. Must possess a valid Arizona State driver's license or have the ability to obtain one prior to employment.
- B. Skill in the use of civil computer-aided design/software, experience in the use of AUTOCAD, Geographic Information Systems (GIS), and care of computer equipment and drafting tools and instruments.

## **TOOLS AND EQUIPMENT USED**

Personal computer, including word processing, data base and computer-aided-design (AutoCAD) software; GIS, standard drafting tools; calculator; motor vehicle; phone; copy and fax machine.

## **PHYSICAL DEMANDS**

The physical demands described herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Work is performed mostly in office settings. Some outdoor work is required in the review of various land use developments, construction sites, or community facilities. Hand-eye coordination is necessary to operate drafting instruments, computers and various pieces of office equipment.

While performing the duties of this job, the employee is occasionally required to stand; walk; use hands to finger, handle, feel or operate objects, tools, or controls; and reach with hands and arms. The employee is occasionally required to sit.

The employee must occasionally lift and/or move up to 10 pounds.

Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.

## **WORK ENVIRONMENT**

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee occasionally works in outside weather conditions.

The noise level in the work environment is usually quiet to moderate.

### **SELECTION GUIDELINES**

Formal application, rating of education and experience; oral interview and reference check; job related tests may be required.

The duties listed above are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to the position.

The job description does not constitute an employment agreement between the employer and employee and is subject to change by the employer as the needs of the employer and requirements of the job change.